

Appln. No. 10/524,069  
Attny. Dckt. No. IT 020024

### REMARKS

#### Introduction

Claims 1 and 3-12 are in the application, of which claims 1 and 10-12 are in independent form. Claims 1 and 10-12 have been amended, and claim 2 has been cancelled.

#### Rejections under 35 U.S.C. § 102(e)

Claims 1 and 10-12 stand rejected under 35 U.S.C. § 102(e) as being unpatentable over U.S. Patent No. 6,999,432 (*Zhang*).

Claims 1 and 10-12 have been amended to include the features of original dependent claim 2, which was deemed by the examiner to be allowable over *Zhang*. Accordingly, applicants submit that the rejections to claims 1 and 10-12 under 35 U.S.C. § 102(e) are now moot, and withdrawal of the rejections is requested.

#### Rejections under 35 U.S.C. § 103(a)

Claims 2-9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over a combination of (*Zhang*), and U.S. Patent No. 7,016,296 (*Hartman*).

Claim 2 has been cancelled, and claims 1 and 10-12 have been amended to include the features of cancelled claim 2.

Amended claim 1 is directed to a transmitter, for transmitting packet data, that comprises a detector for detecting packet data to be transmitted. The transmitter comprises a selector that "in response to a detection result of a real-time requirement select[s] a first coding scheme and a first modulation scheme for coding and modulating said packet data" and "in response to a non-real-time requirement select[s] a second coding scheme and a second modulation scheme for coding and modulating said packet data." "The first coding scheme comprises a convolutional code and said first modulation scheme comprises an adaptive

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orthogonal frequency division modulation scheme" and the "second coding scheme comprises a turbo code and said second modulation scheme comprises an orthogonal frequency division modulation scheme."

As conceded in the Office Action, *Zhang* does not teach or suggest a transmitter as recited in amended claim 1 in which "the first coding scheme comprises a convolutional code and said first modulation scheme comprises an adaptive orthogonal frequency division modulation scheme" and the "second coding scheme comprises a turbo code and said second modulation scheme comprises an orthogonal frequency division modulation scheme."

For this limitation, the Examiner relies upon *Hartman*. *Hartman* describes systems for "communicating on a wireless channel [that] are provided which enable subscribers that share the channel to transmit using different modulation schemes." *Hartman* at Abstract. *Hartman* describes transmitters sending data using various encoding schemes and symbol constellation configurations. *Id.* at col. 2, lns. 14-53. With such systems, transmission can be affected by non-line of site communications. As described in *Hartman* "[t]ypically, the upstream channel is non-line of sight." In such a situation, "Vector Orthogonal Division Multiplexing ... can be used because it is robust in the presence of the severe multipath distortion generally present in high capacity, non-line of sight wireless channels." *Hartman* describes this method as involving "separating the data into a number of separate streams and then transmitting each stream on a separate carrier at a much lower rate." *Id.* at col. 5, lns. 29-40.

Applicants submit that the proposed combination of *Zhang* and *Hartman* does not teach or suggest all of the claimed features of amended claim 1 of the present application. Specifically, the proposed combination of *Zhang* and *Hartman* does not teach or suggest a the claimed combination of a selector that "in response to a detection result of a real-time requirement select[s] a first coding scheme and a first modulation scheme for coding and

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modulating said packet data" and "in response to a non-real-time requirement select[s] a second coding scheme and a second modulation scheme for coding and modulating said packet data," and "the first coding scheme comprises a convolutional code and said first modulation scheme comprises an adaptive orthogonal frequency division modulation scheme" and the "second coding scheme comprises a turbo code and said second modulation scheme comprises an orthogonal frequency division modulation scheme."

As described above, *Hartman* does describe the use of various encoding schemes and symbol constellation configurations, but *Hartman* does not teach or suggest the *specific limitation* of "the first coding scheme comprises a convolutional code and said first modulation scheme comprises an adaptive orthogonal frequency division modulation scheme" and the "second coding scheme comprises a turbo code and said second modulation scheme comprises an orthogonal frequency division modulation scheme," as claimed in the present application.

Moreover, while *Hartman* does describe various encoding schemes and symbol constellation configurations, they are described in the context of use in the presence of the severe multipath distortion generally present in high capacity, non-line of sight wireless channels. *Hartman* does not describe such encoding schemes and symbol constellation configurations in any context of a selector that "in response to a detection result of a real-time requirement select[s] a first coding scheme and a first modulation scheme for coding and modulating said packet data" and "in response to a non-real-time requirement select[s] a second coding scheme and a second modulation scheme for coding and modulating said packet data," as claimed in the present application.

Accordingly, Applicants submit that the proposed combination of *Zhang* and *Hartman* does not teach or suggest all of the claimed features of amended claim 1 of the present application, and withdrawal of the rejection to that claim is requested.

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Each of claims 3-9 ultimately depend from amended claim 1, that has been previously discussed and is believed to be allowable, and further narrow and define that claim. Therefore, at least for depending from allowable claim 1, claims 3-9 are also believed to be allowable over any combination of Zhang and *Hartman*.

Amended claims 10-12, while different in form and scope than claim 1, have been amended to recite a transmitter as recited in the claims "wherein said first coding scheme comprises a convolutional code and said first modulation scheme comprises an adaptive orthogonal frequency division modulation scheme and said second coding scheme comprises a turbo code and said second modulation scheme comprises an orthogonal frequency division modulation scheme," which feature, as described above, is not taught or suggested by any combination of *Zhang* and *Hartman*.

Accordingly, for at least these reasons, claims 10-12 are deemed to distinguish patentably over any hypothetical combination of *Zhang* and *Hartman*.

Thus, applicants submit that each of the claims of the present application are patentable over each of the references of record, either taken alone, or in any proposed hypothetical combination. Accordingly, withdrawal of the rejections to the claims is respectfully requested.

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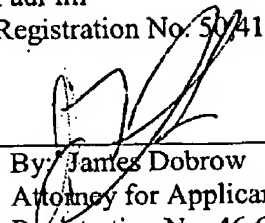
**Conclusion**

In view of the above remarks, reconsideration and allowance of the present application is respectfully requested.

Respectfully submitted,

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Date: 25 April 2007

  
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